ITHACA AREA WWTF BIOGAS UTILIZATION

BACKGROUND

- Codigestion facility with cogeneration system since 1987
- During last four years upgrades to digester mixing, biogas cleaning, biogas storage and new cogeneration equipment have been implemented
- New Trucked Residuals Receiving Center Constructed
- Plant receives a wide variety of codigestion substrates to supplement in plant residuals.

COGENERATION UPGRADE

Completed upgrade from reciprocating engines to microturbines in 2013

260 Kilowatts of installed capacity

Average 120,000 kilowatt hours per month

Replaced Reciprocating Engines with over 100,000 hours of operation

Biogas Conditioning Skid

Due to the presence of siloxanes
All municipally derived biogas requires a
Cleaning process.

Siloxanes can foul combustion surfaces
and shorten the useful life of generation
Equipment.

Unison skid dehumidifies, compresses and
Scrubs gas using carbon

Gas samples are taken to determine
Carbon change out.

CHALLENGES

- Cogneration was not new to Ithaca. Swithcing from reciprocating engine to microturbines has been successful
- Biogas cleaning is new and so far has operated reliably. Sacrificial load due to electric motors on skid cost a significant amount of electricity. Equivalent to half of one cogen.
- Luckily our gas is a high quality biogas with >65% methane